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EFFICACY OF SHORT TERM, HIGH DOSE STATINS FOR PREVENTING CONTRAST-INDUCED ACUTE KIDNEY INJURY IN PATIENTS UNDERGOING CORONARY ANGIOGRAPHY AND/OR PERCUTANEOUS CORONARY INTERVENTION: A META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS

Poster Contributions
Hall C
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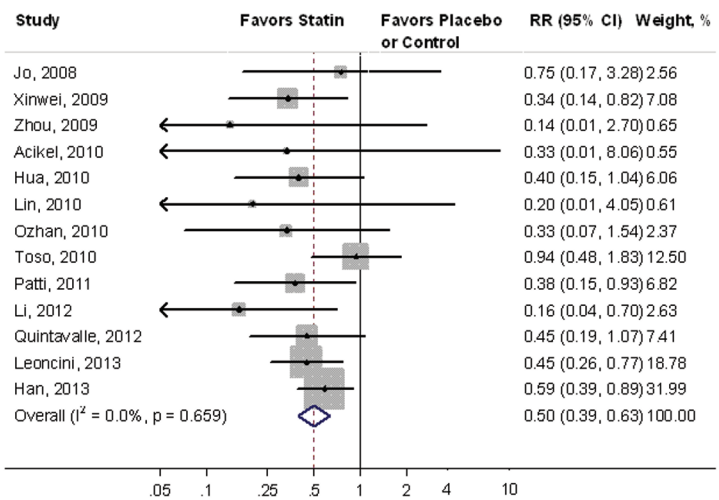
Background: Contrast-induced acute kidney injury (CI-AKI) after coronary angiography (CAG) and/or percutaneous coronary intervention (PCI) is associated with increased hospital stay, healthcare costs, morbidity and mortality. Studies evaluating short term, high dose statins in the prevention of CI-AKI have yielded inconsistent results. We conducted a meta-analysis to determine if statins prior to CAG and/or PCI reduce the risk of CI-AKI.

Methods: PubMed, Embase, Scopus, Cochrane Library Central Register of Controlled Trials, and ClinicalTrials.gov were used to identify randomized controlled trials (RCTs) assessing short term treatment with high dose statins in the prevention of CI-AKI in patients undergoing CAG and/or PCI. CI-AKI was defined as an increase in serum creatinine of 25% or an increase of 0.5 mg/dL within 2 to 5 days after contrast exposure. A random effects model was used with relative risk (RR) as the summary measure of effect size.

Results: In 13 RCTs that included 5,737 patients, treatment with short term high dose statins prior to CAG and/or PCI was associated with a lower risk of CI-AKI (3.4% vs. 7.2%; RR 0.50 [95% CI, 0.39-0.63], P ≤ 0.001) with little heterogeneity (I2 0%, P = 0.659). The number needed to treat was 26.



Conclusions: In this meta-analysis, the use of short term high dose statins prior to CAG and/or PCI was associated with a reduction in the risk of CI-AKI. Routine use of high dose statins prior to CAG and/or PCI could reduce CI-AKI, shorten hospital stay, and lower healthcare costs.